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ELECTRICAL INSPECTION BRANCH

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EDMONTON

QUARTERLY BULLETIN

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CHIEF ELECTRICAL INSPECTOR
ADMINISTRATION BUILDING, EDMONTON

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PERMIT REMITTANCES

The payment of permit fees is customarily made by cash, money order or certified cheque. Uncertified personal cheques are accepted in good faith from electricians who have been doing business with this Branch over a period of time. A number of cases have occurred where the cheques have been returned by the bank marked "N.S.F.". When this happens, the remitter is advised to redeem his cheque by return mail with a certified cheque or money order. In addition his name is added to a list of people from whom, in the future, only certified personal cheques will be accepted.

A number of electrical contractors have opened permit accounts and find that the service saves time and trouble when sending in permits. A credit balance must be maintained at all times and the account cannot be used for purchasing codes, or paying invoices. When a contractor makes a deposit, the balance of his account is noted on the receipt. This balance is the amount remaining in the account after all permits on hand have been issued.

EMERGENCY LIGHTING AND EXIT LIGHTING

For some years it has been customary to require emergency lighting to be connected ahead of the main service switch. Section 46 of the Sixth Edition has left the decision as to whether or not emergency lighting is required, up to the enforcement agencies such as the Theatres Branch, Fire Commissioner's Branch, etc.

Where such separate legislation requires emergency lighting, it must be installed in accordance with the requirements of Section 46. This section deals exclusively with emergency lighting and exit lighting that have a source of supply separate from the Utility Company.

In view of the foregoing, we are prepared to accept the installation of lighting which may become part of the emergency lighting system, if it is installed in a separate raceway and connected to a circuit or circuits used for no other purpose. Such circuits are to terminate adjacent to the service switch and to be connected through a suitable circuit breaker or fuse directly to the main service leads on the load side of the meter. Under these circumstances there will be no necessity for connecting these circuits ahead of the main switch and no metering problems will arise.

AUTOMOBILE HEATER OUTLETS

Contractors are now installing convenience outlets for permanent use on the outside of buildings. These outlets are to supply car heaters, lawn mowers, etc., in towns, and on the farm, they are useful for portable tools, portable pumps, tractor heaters, stock tank heaters and for extension lamps.

Electricians should note that all such outlets must be of weatherproof construction or in a weatherproof enclosure. The metal parts of this outlet must be grounded. In addition, where likely to be used for portable tools and equipment, such outlets must be supplied with three-wire receptacles having one terminal grounded.

LIMITS TO SERVICE CIRCUIT BREAKERS

The Sixth Edition of the Canadian Electrical Code now states that a circuit breaker panel up to 200 amp. capacity may be used for sevice equipment without the use of main switch. When this ruling was being discussed at the Part I Code Meetings in the east, it was noted that many Provinces will not accept this, as they require a main switch for every service. Becasue of this disagreement, it was left to the Provincial Code Committee to decide what additional limitations should be applied for each Province.

The Alberta Provincial Code Committee, at a meeting in February 1953, decided that the additional requirements for Alberta would be as follows:-

A circuit breaker panel consisting of eight 15 amp. 115 volt circuits and one 35 amp. 220 volt circuit is the largest group of circuit breakers that is acceptable for sequence metering without a main switch. Furthermore this type of service is restricted to residences and small commercial occupancies.

This question will be discussed at the coming meeting of the Alberta Provincial Code Committee, being held on February 17th, 18th, and 19th, 1954, and it is hoped a rewording of Rule 6-040 will be available for publication in the April Quarterly Bulletin.

SERVICE EQUIPMENT IN BASEMENTS

The Inspection Branch receives many inquiries as to whether it would be acceptable to install service equipment in basements. It is extremely difficult to set a rigid ruling that would cover all conditions, and the result is that each case must be decided on its own merits. As a guide, the following points must be considered:-

1. The basement should be of concrete or concrete block construction, providing adequate drainage and head room.

2. The service should be readily accessible and adjacent to the basement stairway but not located in the stair-well.

It is obvious from the above that there must be a good reason for placing service equipment in a basement and the conditions encountered must be favourable before the installation will be acceptable.

PROVINCIAL CODE MEETING

The Provincial Code Committee will hold a meeting in Lethbridge, to discuss the acceptability of the rules of the Sixth Edition for use in the Province of Alberta. This meeting is tentatively set for February 17th, 18th, and 19th, 1954.

Readers of this bulletin who wish to offer their comments are asked to contact their representative without delay so that the items may be placed on the Agenda for this meeting.

The Code Committee consists of the following members:-

S.A.B. Kembry	-	(Chairman) - 527 Administration Building, Edmonton. Representing Province of Alberta - Electrical Branch
R. Austin	-	City of Calgary Light and Power Dept. Representing Municipal Inspection Services.
W. B. McDonald	-	City of Edmonton Light and Power Dept. Representing Municipal Inspection Services.
G. W. Blake	-	Electrical Contracting and Machinery Co., Calgary. Representing Alberta Electrical Contractor's Assoc.
T. M. Jacobs	-	520 - 22nd Ave. N.E., Calgary. Representing Provincial Conference I.B.E.W.
H. B. LeBourveau-		Calgary Power Limited, Calgary. Representing Utility Companies.
T. L. Heney	-	Canadian General Electric, Edmonton. Representing Electrical Wholesale Distributors.

ACCIDENTS

In a previous bulletin, there appeared an outline of some of the electrical accidents that had been investigated by the Electrical Inspection Branch during the first half of 1953. Unfortunately the high accident rate was maintained throughout the year, and this additional summary is distributed in the hope that some may be prevented in the future.

JULY 7th, 1953 - A line crew was raising a 2300 volt transformer into place when a lineman accidently touched the phase wire and the secondary neutral. The resulting shock threw him off the pole but he was saved from serious injury by falling into the branches of a tree.

JULY 10th, 1953 - A building was being moved underneath power lines but the utility company had not been notified to de-energize their lines. A workman standing on the building lifted a street light wire to clear the building and his shoulder touched a 13000 volt conductor. He was severely burned as well as being injured by falling to the ground.

JULY 15th, 1953 - The shooter on a seismograph crew was burned about the arms and legs when a shot line fell over a power line in a high wind. The accident could have been avoided by using a non-metallic shot cord as required by Regulations.

JULY 29th, 1953 - An electric crane operator received a shock from a push button station that was hanging from, and controlling a 220 volt overhead electric hoist. A bonding wire had not be included in the control cable which broke down where it entered and push button enclosure. He was unconscious 15 minutes, in hospital 3 days and away from work 12 days.

JULY 30th, 1953 - A lineman working on energized 4160 volt conductors received a shock when he shifted his position on the pole. His life was saved by a fellow worker who applied pole-top resuscitation, but the accident could have been easily prevented by using the safety devices that were provided.

AUGUST 1st, 1953 - An electrician's helper was disconnecting a service station gasoline pump from a temporary service without first disconnecting the energized conductors. A spark in the pump caused an explosion, resulting in first degree burns to the helper's face and chest as well as second degree burns to both hands.

AUGUST 5th, 1953 - A temporary employee of a power distribution department was in the habit of withdrawing cables from a disconnecting pothead of street light circuits in a substation to check their resistance. This is customary on a day shift when the circuits are not energized. The employee switched to a night shift and tried to follow the same procedure while the circuits were energized. The resulting arc caused severe burns to his hands and face.

AUGUST 11th, 1953 - An employee of a construction firm was using an electric screw driver while assembling metal siding on a building. The tool had been provided with a grounding wire and a three wire cap but the outlet to which it was connected had no provision for the ground wire, so it was left disconnected. Ground faults developed in the machine and electrocuted the man using it. This man's life would have been saved if the tool had been properly grounded.

AUGUST 27th, 1953 - Three employees of an oil company threw a stray piece of copper wire over a 66000 volt power line. The short circuit ripped the main breaker on the power line. The oil company employees then tried to remove the wire with a tree branch while at the same time the power plant operator reclosed the breaker and energized the line. One man was electrocuted.

AUGUST 29th, 1953 - A new road was being built in a rural area and a bulldozer operator in digging adjacent to the power pole removed the ground rod and broke the ground wire from the pole. This was grounding a 22000 volt singly phase ground return tap. A helper touched the broken ground wire and received a shock. He was not seriously hurt but was knocked unconscious at the time.

SEPTEMBER 21st, 1953 - Two farmers were burned when a well casing they were removing from a well fell against an adjacent 7600 volt rural transmission line.

OCTOBER 1st, 1953 - A seismic crew blew a shot hole underneath a power line contrary to Regulations. The shot wire shorted between a rural 6.9 K.V. rural line and a 66 K.V. transmission line and burned but several electrical appliances on nearby farms. In addition one man on the crew was slightly burned.

OCTOBER 19th, 1953 - A construction worker received serious and crippling burns that will keep him in hospital for several months when his foreman allowed a truck mounted crane to unload materials from a flat car that was spotted underneath a 22 K.V. power line. The crane touched the power line and the man was injured when he touched the truck thereby completing the circuit to ground.

DECEMBER 10th, 1953 - Five linemen received burns when a wire they were pulling in on a 2300 volt circuit caught and then whipped up into the 22 K.V. line above. Proper adherence to Rule 433 J of the Electrical Protection Act may have avoided this accident.

DECEMBER 15th, 1953 - A farmer was instantly killed when he touched a radio aerial wire that was in contact with a 7620 volt rural service to his farm yard. The newly installed rural line had been energized before clearance from the aerial had been checked.

DECEMBER 16th, 1953 - Five more linemen were burned in an accident under exactly the same circumstances as the above noted accident.